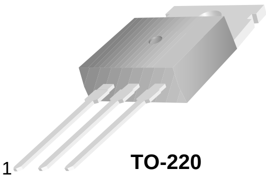
FAIRCHILD
SEMICONDUCTOR®

January 2010

D45C8
PNP Power Amplifier

- Sourced from process 5P.



1 TO-220

1. Base 2. Collector 3. Emitter

Absolute Maximum Ratings T_A = 25°C unless otherwise noted

Symbol	Parameter	Value	Units
V_{CEO}	Collector-Emitter Voltage	-60	V
I_C	Collector Current - Continuous	-4.0	A
T_J, T_{STG}	Operating and Storage Junction Temperature Range	-55 to +150	°C

Electrical Characteristics T_A=25°C unless otherwise noted

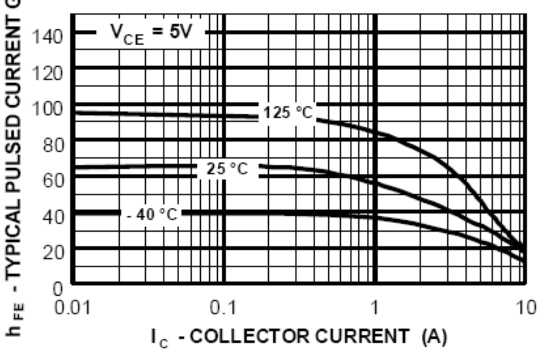
Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Units
Off Characteristics						
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage	I_C = -100mA, I_B = 0	-60			V
I_{CES}	Collector-Emitter-(Base)Short	V_{CE} = -70V, I_E = 0			-10	μA
I_{CEO}	Collector-Emitter-(Base)Open	V_{CE} = -55V, I_E = 0			-100	μA
I_{EBO}	Emitter-Base Current	V_{EB} = -5.0V, I_B = 0			-100	μA
On Characteristics						
h_{FE}	DC Current Gain	V_{CE} = -1.0V, I_C = -0.2A V_{CE} = -1.0V, I_C = -2.0A	40 20		120	
$V_{CE\ (sat)}$	Collector-Emitter Saturation Voltage	I_C = -1.0A, I_B = -50mA			-0.5	V
$V_{BE\ (sat)}$	Base-Emitter Saturation Voltage	I_C = -1.0A, I_B = -100mA			-1.3	V
Small Signal Characteristics						
C_{ob}	Output Capacitance	V_{CB} = -10V, f = 1.0MHz			125	pF
f_T	Current Gain Bandwidth Product	I_C = -20mA, V_{CE} = -4.0V	32			MHz
t_{ON}	t_d, Delay Time t_r, Rise Time	I_C = -1.0A, I_{B1} = I_{B2} = -0.1A V_{CC} = -30V, tp = 25μs		59 502		ns
t_{OFF}	t_s, Storage Time t_f, Fall Time			474 59		ns

Thermal Characteristics T_A=25°C unless otherwise noted

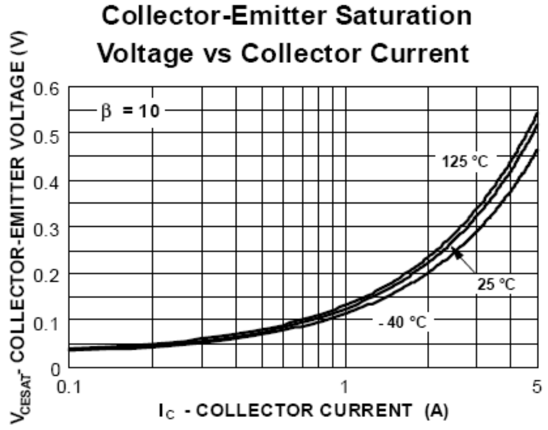
Symbol	Parameter	Max.	Units
P_D	Total Device Dissipation Derate above 25°C	60 480	W mW/°C
$R_{\theta JC}$	Thermal Resistance, Junction to Case	2.1	°C/W
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient	62.5	°C/W

Typical Performance Characteristics

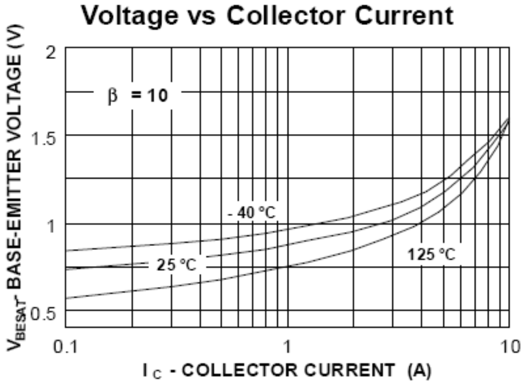
Typical Pulsed Current Gain vs Collector Current



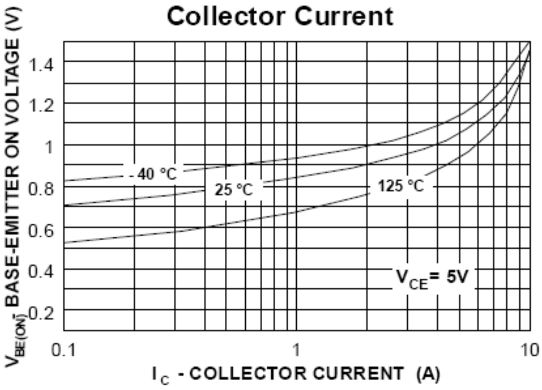
Collector-Emitter Saturation Voltage vs Collector Current



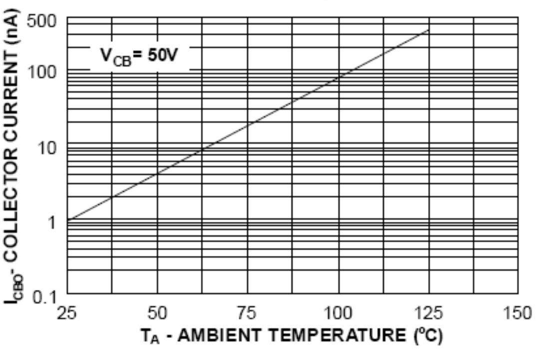
Base-Emitter Saturation Voltage vs Collector Current



Base-Emitter ON Voltage vs Collector Current



Collector-Cutoff Current vs Ambient Temperature



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No Identification Needed	Full Production	Datasheet contains final specifications. Fairchild Semiconductor reserves the right to make changes at any time without notice to improve the design.
Obsolete	Not In Production	Datasheet contains specifications on a product that is discontinued by Fairchild Semiconductor. The datasheet is for reference information only.

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